Operating Instructions W-350

The E.L.B. water level indicators are measuring devices and must therefore be handled with care.
Please read these instructions **first** and check if all parts are present according to the drawing or your order.

The prerequisites for a perfect and safe operation of the water level indicator are proper transport, storage and assembly, professional installation and startup and operation, maintenance and disposal as intended.

Only persons with the necessary subject knowledge and qualification may perform the assembly, installation and startup.

The relevant safety regulations and standards for setup and operation need to be followed. Please contact the manufacturer if the information included in these instructions is not adequate.

Precautions / Risk of injury

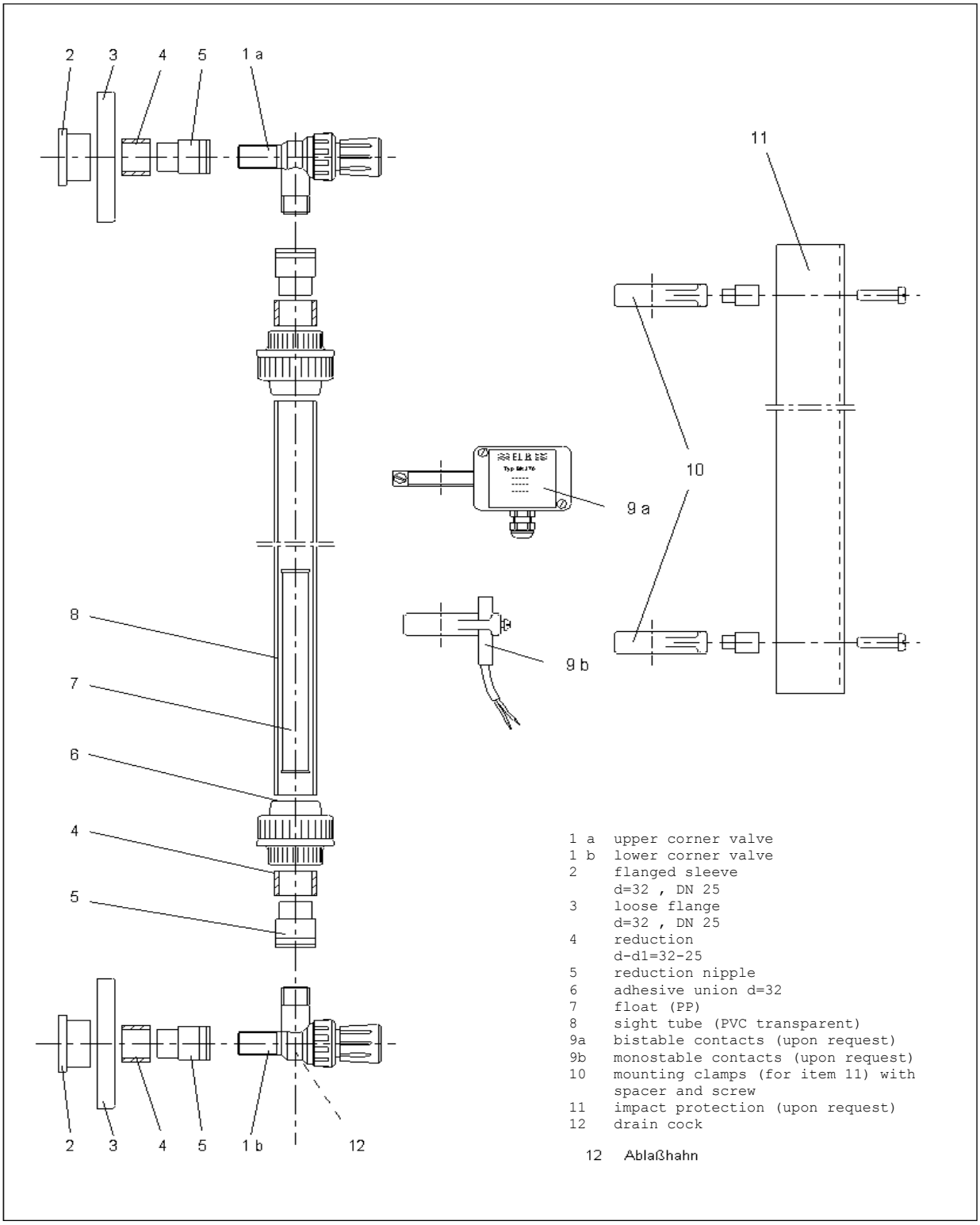
Cutting injuries

Depending on the design, parts of the water level indicator are made from glass. This can ***break easily*** and when ***destroyed*** it presents a hazard through extremely ***sharp fragment edges***.
Glass parts must therefore be handled with care and caution (prevent dropping, hitting, falling, bending, etc.)
The sight tube must not be cocked during installation or installed with mechanical tension.

Crushing

Because of the water level indicator's weight crushing and injuries may occur during installation.
Cautious and careful working manners must therefore be exercised.
Appropriate work protection and implements (safety shoes, protective gloves, lifting gear, etc.) must be used.

Errors and changes reserved



1 a upper corner valve
1 b lower corner valve
2 flanged sleeve
d=32 , DN 25
3 loose flange
d=32 , DN 25
4 reduction
d-d1=32-25
5 reduction nipple
6 adhesive union d=32
7 float (PP)
8 sight tube (PVC transparent)
9a bistable contacts (upon request)
9b monostable contacts (upon request)
10 mounting clamps (for item 11) with spacer and screw
11 impact protection (upon request)
12 drain cock

12 Ablaßhahn

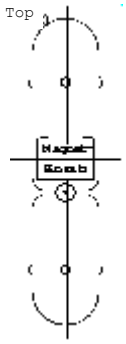
1 Assembly

The operating and use conditions (temperature, pressure, chemical resistance, mechanical stress, etc.) at the installation location must lie within the framework of the limits specified in the data sheet.
Attention! Magnetic or soft-magnetic materials on or in the immediate vicinity of the sight glass tube or the switching contacts may strongly affect the proper function of float and / or contacts.

First the upper (1a) and lower (1b) corner valves are flanged to the tank.
The assembly of the screw and sealing elements takes place in the order shown on the assembly drawing.
With the type W-350 the spigot nuts of the adhesive unions (item 6) must be loosened to be able to introduce the float into the sight tube.
After loosening the sight tube can be removed toward the side. Now insert the float* (see below) into the lower end of the sight tube and secure it with your hand.
Lift the sight tube and guide it together with the float* again between the unions. Now first tighten the lower and then the upper union again. Pay attention that the O-ring seals of the unions are installed again.

When using the bistable switching contacts the correct float type and the correct installation position according to the following description must be observed.

- PPH float PPS-390/.... has a top mark "O" and must be inserted accordingly.
- The glass float GSB-390/... (see sketch) also has a top mark "O" when supplied (*as orientation if the mark is missing: the bonding points of the magnet must be visible from the top*).



Attention:

The magnetic system attracts iron particles. Because of adhering chips the float cannot move freely in the sight tube. Cleanliness must therefore be observed.

Because the monostable switching contacts (9) and the mounting clamps (10) for the impact protection are first clamped on the sight tube (8) mounting these parts before installing the sight tube is recommended. **Support** the **sight tube securely** during this procedure **to prevent the risk of breakage**.
The exact position of the contacts and the mounting clamps can be set subsequently through sliding on the installed sight tube.
In regard to the installation of our bistable changeover contacts BK-390 please follow our separate operating instructions (included on the product leaflet of the BK-390).
The impact protection is screwed down with the mounting clamps after the final position of the switching contact has been set.
The water level indicator is dismantled in the reverse order and task sequence according to these installation instructions.

2 Electrical connection

The relevant safety regulations and standards for setup and operation of electrical systems must be followed. The electrical connections must be made ***while no voltage is applied***. The supply lines must be routed properly using appropriate installation systems (protective tubes, cable duct, etc.).

Bistable changeover contacts BK-390

In regard to the installation and connection of the BK-390, please follow the separate operating instructions (included on the product leaflet of the BK-390).

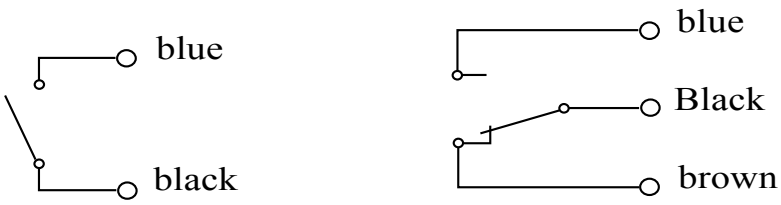
Monostable switching contacts

The contacts are mounted on the sight tube with the mounting clamps and can be moved infinitely variable. They are designed as normally open contact or as changeover contact (depending on the order). Their max. electrical values should not be exceeded. If higher switching outputs or voltages are required, we recommend our contact protection relays of the type series KR-16... or the intrinsically safe types ER-14 for explosion hazard areas .

Electrical max. values

Normally open contact		Changeover contact	
Max. switching power	10 W/VA	Max. switching power	3 W/VA
Max. switching voltage	230 V	Max. switching voltage	110V

Connection diagram



3 Startup

Check whether the drain valve is firmly closed.

First open the upper corner valve (air or vapor valve) and then the lower corner valve slowly (liquid side) The liquid to be measured will always keep the same filling level in the sight tube as in the tank when the valves are open and raise the float to this level.

4 Maintenance

The water level indicator does not require special maintenance beyond the general inspection/function check of the system.

If the liquid contains dirt particles, which may settle in the lower corner valve, the drain valve must be opened at appropriate intervals to flush out these deposits.

If scaling develops the water level indicator must be disassembled at appropriate intervals in the reverse order of the installation instructions and cleaned.